

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019 / 2020

DBM5624 PRINCIPLE OF FINANCE

(All Sections/Groups)

9 MARCH 2020

9.00 AM – 11.00 AM

(2 hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 7 pages excluding cover page. The formulae appendices are given.
2. Attempt **ALL** questions in **Section A** and **B**. All questions carry equal marks and the distribution of the marks for each question is given.
3. Shade your answers for **Section A** on the OMR form and write your answers for **Section B** on the Answer Booklet provided.

SECTION A: Multiple Choice Questions. (Total: 30 Marks)

Instruction: Answer ALL questions from this section and shade your answers on the OMR form provided.

- 1) _____ is the principal amount of a bond that is repaid at the end of the loan term.
 - A. Coupon
 - B. Market price
 - C. Accrued price
 - D. Face value

- 2) The market-required rate of return on a bond that is held for its entire life is called the _____.
 - A. coupon rate.
 - B. yield to maturity.
 - C. dirty yield.
 - D. call premium.

- 3) The written agreement that contains the specific details related to a bond issue is called the bond _____.
 - A. indenture.
 - B. debenture.
 - C. document.
 - D. registration statement.

- 4) A registered-form bond is defined as a bond that _____.
 - A. is a bearer bond.
 - B. is held in street name.
 - C. pays coupon payments directly to the owner of record.
 - D. is listed with the Securities Commission of Malaysia.

- 5) Malik found a bond certificate and noticed that it was a 50-year bond that matured today. He presented the bond to the bank and received payment for the entire principal and the final interest payment. Which of the following is refer to the bond that Malik found?
 - A. Debenture.
 - B. Note.
 - C. Registered-form bond.
 - D. Bearer-form bond.

- 6) What term is used to describe an account that a bond trustee manages for the sole purpose of redeeming bonds early?
 - A. Registered account.
 - B. Bearer account.
 - C. Call account.
 - D. Sinking fund.

Continued...

- 7) A bond trader just purchased and resold a bond. The amount of profit earned by the trader from this purchase and resale is referred to as the _____
- A. market yield.
 - B. yield-to-call.
 - C. bid-ask spread.
 - D. current yield.
- 8) When valuing a stock using the constant-growth model, D_1 represents the _____
- A. expected difference in the stock price over the next year.
 - B. expected stock price in one year.
 - C. last annual dividend paid.
 - D. the next expected annual dividend.
- 9) The dividend yield is defined as _____
- A. the last annual dividend divided by the current market price per share.
 - B. the last annual dividend divided by the current book value per share.
 - C. next year's expected dividend divided by the current market price per share.
 - D. next year's expected dividend divided by the current book value per share.
- 10) Which one of the following equals to capital gains yield?
- A. Required rate of return.
 - B. Market rate of return.
 - C. Dividend yield.
 - D. Dividend growth rate.
- 11) Which one of the following types of securities has the lowest priority in a bankruptcy proceeding?
- A. Convertible bond.
 - B. Senior debt.
 - C. Common stock.
 - D. Preferred stock.
- 12) Susan owns 100 shares and each share entitles her for one vote per open seat to elect candidate for the board of directors. There are three open seats and Susan uses all 300 of her votes for a single candidate. What is the term used to describe for this voting?
- A. Proxy.
 - B. Aggregate.
 - C. Cumulative.
 - D. Sequential.
- 13) There are two open seats on the board of directors. If two separate votes occur to elect the new directors, this situation is **BEST** described as _____ voting.
- A. simultaneous
 - B. straight
 - C. cumulative
 - D. condense

Continued...

- 14) Karen could not attend the last shareholders' meeting and thus she granted the authority to vote on her behalf to the managers of the firm. Which term applies to this granting of authority?
- A. Cumulative.
 - B. Consent-form.
 - C. Proxy.
 - D. In absentia.
- 15) The payback period is the length of time it takes an investment to generate sufficient cash flows to enable the project to _____
- A. produce a positive annual cash flow.
 - B. produce a positive cash flow from assets.
 - C. offset its total expenses.
 - D. recoup its initial cost.
- 16) Both Projects A and B are acceptable as independent projects. However, the selection of either one of these projects eliminates the option of selecting the other project. Which one of the following terms **BEST** describes the relationship between Project A and Project B?
- A. Mutually exclusive.
 - B. Conventional.
 - C. Multiple choice.
 - D. Dual return.
- 17) Which one of the following can be defined as a benefit-cost ratio?
- A. Net present value.
 - B. Internal rate of return.
 - C. Profitability index.
 - D. Accounting rate of return.
- 18) Which one of the following indicates that a project is expected to create value for its owners?
- A. Profitability index less than 1.0.
 - B. Payback period greater than the requirement.
 - C. Positive net present value.
 - D. Positive average accounting rate of return.
- 19) Which one of the following is generally considered to be the **BEST** evaluation of analysis to analyse a variety of investment opportunities?
- A. Payback.
 - B. Profitability index.
 - C. Accounting rate of return.
 - D. Net present value.

Continued...

- 20) Which one of the following statements is **CORRECT**?
- A. The net present value is a measure of profits expressed in today's dollars.
 - B. The net present value is positive when the required return exceeds the internal rate of return.
 - C. If the initial cost of a project is increased, the net present value of that project will also increase.
 - D. If the internal rate of return equals the required return, the net present value will equal zero.
- 21) If an investment is producing a return that is more than the required return, the investment's net present value will be _____
- A. positive.
 - B. greater than the project's initial investment.
 - C. zero.
 - D. equal to the project's net profit.
- 22) Which one of the following condition indicates that a project should be rejected?
- A. Average accounting return that exceeds the requirement.
 - B. Payback period that is shorter than the requirement period.
 - C. Positive net present value.
 - D. Profitability index less than 1.0.
- 23) In an efficient market, the cost of equity for a highly risky firm _____
- A. will be less than the market rate but higher than the risk-free rate.
 - B. must equal the market rate of return.
 - C. decreases as the beta of the firm's stock increases.
 - D. increases in direct relation to the stock's systematic risk
- 24) Assume a firm has a beta of 1.2. All else held constant, the cost of equity for this firm will increase if the _____
- A. market risk premium decreases.
 - B. risk-free rate decreases.
 - C. market rate of return decreases.
 - D. beta decreases.
- 25) Which one of the following statements concerning capital structure weights is **CORRECT**?
- A. Target capital structure rates for a firm are irrelevant to individual projects.
 - B. The weights are unaffected when a bond issue matures.
 - C. An increase in the debt-equity ratio will increase the weight of the common stock.
 - D. The repurchase of preferred stock will increase the weight of debt.

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- 26) Folk Downtown Industries has three divisions. Division Evergreen has been in existence for long time ago and has the most stable sales. Division Village has been in existence for five years and is slightly less risky than overall division. Division Forest is the research and development side of the business. Given this, the firm should probably _____
- A. require the highest rate of return from Division Evergreen since it has been in existence the longest.
 - B. assign the highest cost of capital to Division Forest because it is most likely the riskiest of the three divisions.
 - C. use the firm's Weightage Average Cost of Capital as the cost of capital for Division Forest as it provides analysis for the entire firm.
 - D. use the firm's Weightage Average Cost of Capital as the cost of capital for Divisions Evergreen and Village because they are part of the revenue-producing operations of the firm.
- 27) Which one of the following is the primary determinant of an investment's cost of capital?
- A. Life of the investment
 - B. Amount of the initial cash outlay
 - C. The investment's level of risk
 - D. The source of funds used for the investment
- 28) Which one of the following is primarily the cost of capital for a project depends on?
- A. Source of funds used for the project.
 - B. Division within the firm that undertakes the project.
 - C. Project's modified internal rate of return.
 - D. How the project uses its funds.
- 29) Currently, Property Brothers has business division of remodelling homes. The company considers expanding the division into new home construction which pioneered by Rock Builders. In evaluating this expansion project, Property Brothers should consider which one of the following as the required return?
- A. Property Brothers' cost of capital.
 - B. Rock Builders' cost of capital.
 - C. Average of Property Brothers' and Rock Builders' cost of capital.
 - D. Lower of Property Brothers' or Rock Builders' cost of capital.
- 30) Which one of the following is used as the pretax cost of debt?
- A. Average coupon rate on the firm's outstanding bonds.
 - B. Coupon rate on the firm's latest bond issue.
 - C. Weighted average yield to maturity on the firm's outstanding debt.
 - D. Average current yield on the firm's outstanding debt.

(Total 30 Marks)

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SECTION B: Structured Questions (70 Marks)

Instruction: Answers for this section should be written in the answer booklet provided.

QUESTION 1

Today 1st January 2020, OSK Property is issuing bonds that will mature on 31st December 2040 with coupon rate 8.5 percent compounded semiannually and yield is 10 percent return.

- a) Calculate the bond price. (5.5 marks)
- b) What is the current yield? (2.5 marks)
- c) Based on answer in (a), OSK property is planning to expand the projects that requires fund of RM 9 million. To achieve this objective, how many bonds should the firm sell? (2.5 marks)
- d) OSK Property also issuing zero-coupon bonds with par value RM 1,000 that will mature in 15 years. The market yield on similar bond is 7 percent. Calculate the bond price. (2.5 marks)
- e) Based on answer in (d), if the company manage to sell 30, 000 units of zero coupon bonds, how much the fund could be raised? (2.5 marks)
- f) A bond yields a real rate of return of 8.5 percent and nominal rate of return of 15 percent. Calculate the inflation rate. (2 marks)

[Total 17.5 Marks]

QUESTION 2

- a) Simon Ltd just paid an annual dividend of RM 0.35 per share. The dividend is expected to grow at 4.5 percent indefinitely. The required rate of return for this stock is 10 percent.
 - i) What is the stock price of Simon Ltd worth today? (3 marks)
 - ii) If the company sell this stock at RM 5 per share, are you willing to buy this stock? Why? (1 mark)
 - iii) If you decided to hold the stock for the next 6 years, what is the expected price? (2.5 marks)
- b) Hibiscus Ltd just paid an annual dividend of RM0.35. The expected dividend growth are as follows: 3 percent in year 1; 3.5 percent in year 2; and 4.5 percent in year 3. Afterwards, the dividend is expected to grow at 3 percent indefinitely. The required rate of return for this stock is 12 percent. What is the value of stock price today? (11 marks)

[Total 17.5 Marks]

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QUESTION 3

Homes Property is considering to build an office building and lease it to Pro Insurance. The office building costs is estimated at RM 1.5 million. Pro Insurance has agreed to rent the office building for 5 years and the rental fees is RM 500,000 per year.

- a) What is the net present value (NPV) and profitability index (PI) of this project if the required rate of return as follows:
 - i) 10 percent. (5.5 marks)
 - ii) 8 percent. (5.5 marks)
- b) The office building will be depreciated on a straight-line basis to a zero book value for 5 years' life and expected to generate net income of RM150,000 for the first 2 years and RM200,000 for another 3 years. Calculate the average accounting rate of return (AAR). (4.5 marks)
- c) The company requires an average accounting return at least 20 percent, based on your calculation in (a) (ii) and (b), should the company proceed with this project? Why? (2 marks)

[Total 17.5 Marks]

QUESTION 4

Sesame Street Inc. has 30,000 shares of common stock outstanding at a price per share of RM4.30 and beta is 1.2. The expected market risk premium is 7 percent and risk free rate is 6.8 percent. The company also has 20,000 shares of RM8 preferred stock outstanding at a price of RM25 per share. The outstanding debt has a total face value of RM180,000 and currently sells for 102 percent of face value. The yield to maturity on the debt is 7 percent and the tax rate is 34 percent.

- a) Calculate the following value of Sesame Street Inc.'s source of financing:
 - i) Value of common stock equity (2 marks)
 - ii) Value of preferred stocks (2 marks)
 - iii) Value of debt (2 marks)
 - iv) Total value (2.5 marks)
- b) Calculate the cost of equity capital using SML approach. (2.5 marks)
- c) Calculate weighted average cost of capital (WACC) (6.5 marks)

[Total 17.5 Marks]

End of Paper

Formulae Appendix

I. Finding the value of a bond

$$\text{Bond value} = C \times [1 - 1/(1 + r)^t]/r + F/(1 + r)^t$$

where

C = Coupon paid each period

r = Rate per period

t = Number of periods

F = Bonds face value

II. Finding the yield on a bond

Given a bond value, coupon, time to maturity, and face value, it is possible to find the implicit discount rate, or yield to maturity, by trial and error only. To do this, try different discount rates in the formula above until the calculated bond value equals the given bond value. Remember that increasing the rate *decreases* the bond value.

I. The general case

In general, the price today of a share of stock, P_0 , is the present value of all of its future dividends, $D_1, D_2, D_3, \dots$:

$$P_0 = \frac{D_1}{(1 + R)^1} + \frac{D_2}{(1 + R)^2} + \frac{D_3}{(1 + R)^3} + \dots$$

where R is the required return.

II. Constant growth case

If the dividend is constant and equal to D , then the price can be written as:

$$P_0 = \frac{D}{R}$$

If the dividend grows at a steady rate, g , then the price can be written as:

$$P_0 = \frac{D_1}{R - g}$$

This result is called the *dividend growth model*.

III. Nonconstant Growth

If the dividend grows steadily after t periods, then the price can be written as:

$$P_0 = \frac{D_1}{(1 + R)^1} + \frac{D_2}{(1 + R)^2} + \dots + \frac{D_t}{(1 + R)^t} + \frac{P_t}{(1 + R)^t}$$

where

$$P_t = \frac{D_t \times (1 + g)}{(R - g)}$$

IV. Valuation Using Multiples

For stocks that don't pay dividends (or have erratic dividend growth rates), we can value them using the PE ratio and/or the price-sales ratio:

$$P_t = \text{Benchmark PE ratio} \times \text{EPS}_t$$

$$P_t = \text{Benchmark price-sales ratio} \times \text{Sales per share}_t$$

V. The required return, R , can be written as the sum of two things:

$$R = D_1/P_0 + g$$

where D_1/P_0 is the *dividend yield* and g is the *capital gains yield* (which is the same thing as the growth rate in dividends for the steady growth case).

I. Finding Net Present Value (NPV)

$$NPV = \sum_{t=0}^n \frac{CF_t}{(1+R)^t}$$

II. Finding Average Accounting Return

$$AAR = \frac{\text{Average Net Income}}{\text{Average Book Value}}$$

III. Profitability Index

$$PI = \frac{\sum_{t=1}^n \frac{CF_t}{(1+r)^t}}{|CF_0|}$$

I. The cost of equity, R_E

A. Dividend growth model approach (from Chapter 7):

$$R_E = D_1/P_0 + g$$

where D_1 is the expected dividend in one period, g is the dividend growth rate, and P_0 is the current stock price.

B. SML approach (from Chapter 11):

$$R_E = R_f + \beta_E \times (R_M - R_f)$$

where R_f is the risk-free rate, R_M is the expected return on the overall market, and β_E is the systematic risk of the equity.

II. The cost of debt, R_D

A. For a firm with publicly held debt, the cost of debt can be measured as the yield to maturity on the outstanding debt. The coupon rate is irrelevant. Yield to maturity is covered in Chapter 6.

B. If the firm has no publicly traded debt, then the cost of debt can be measured as the yield to maturity on similarly rated bonds (bond ratings are discussed in Chapter 6).

III. The weighted average cost of capital, WACC

A. The firm's WACC is the overall required return on the firm as a whole. It is the appropriate discount rate to use for cash flows similar in risk to the overall firm.

B. The WACC is calculated as:

$$WACC = (E/V) \times R_E + (D/V) \times R_D \times (1 - T_C)$$

where T_C is the corporate tax rate, E is the market value of the firm's equity, D is the market value of the firm's debt, and $V = E + D$. Note that E/V is the percentage of the firm's financing (in market value terms) that is equity, and D/V is the percentage that is debt.